FIG. 1

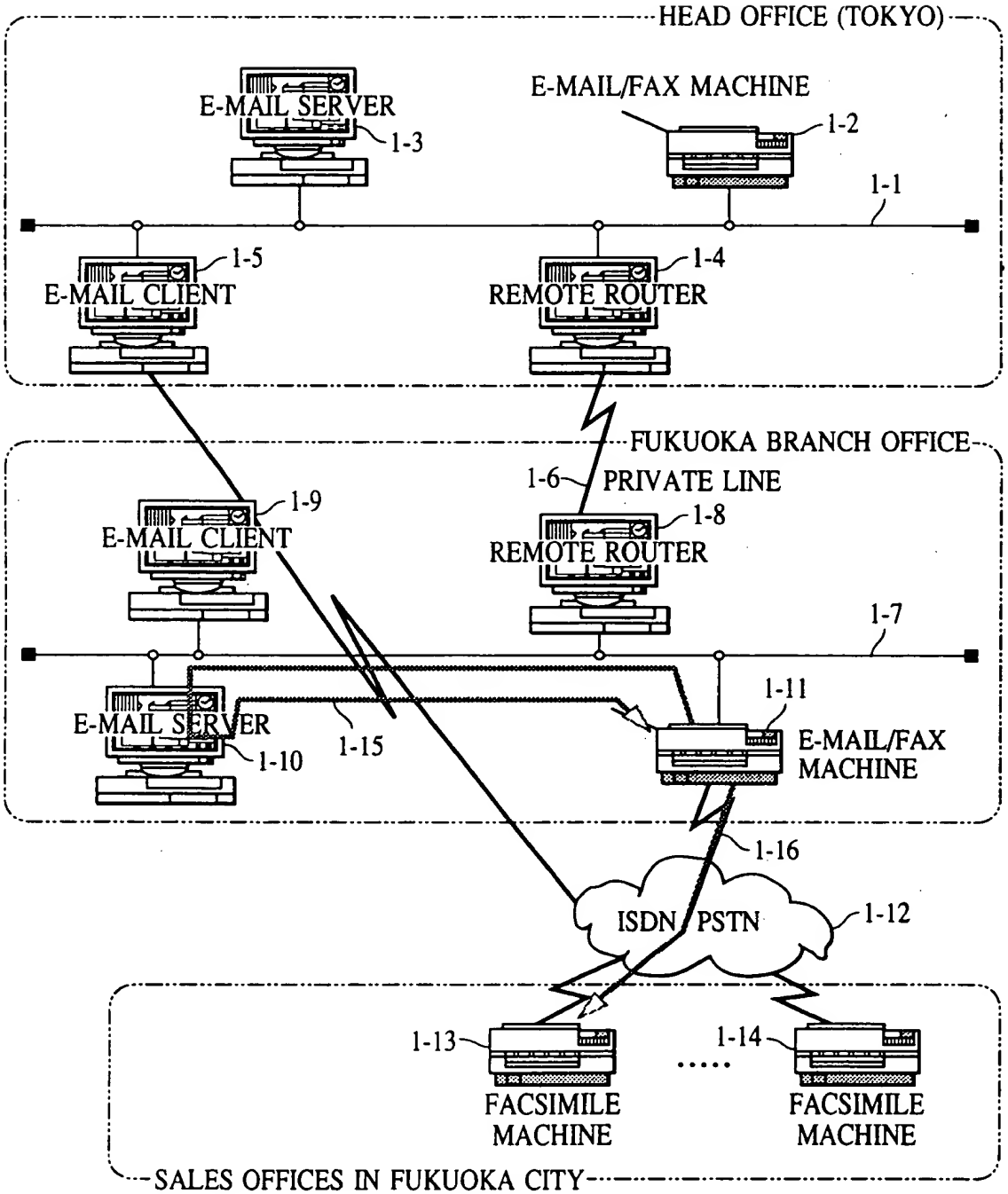

HEAD OFFICE (TOKYO)
E-MAIL SERVER
1-3
E-MAIL/FAX MACHINE
1-2
1-1
1-5
E-MAIL CLIENT
1-4
REMOTE ROUTER
FUKUOKA BRANCH OFFICE
1-6
PRIVATE LINE
1-9
E-MAIL CLIENT
1-8
REMOTE ROUTER
1-7
1-11
E-MAIL SERVER
1-10
1-15
E-MAIL/FAX MACHINE
1-16
ISDN / PSTN
1-12
1-13
1-14
FACSIMILE MACHINE
FACSIMILE MACHINE
SALES OFFICES IN FUKUOKA CITY

FIG. 2A

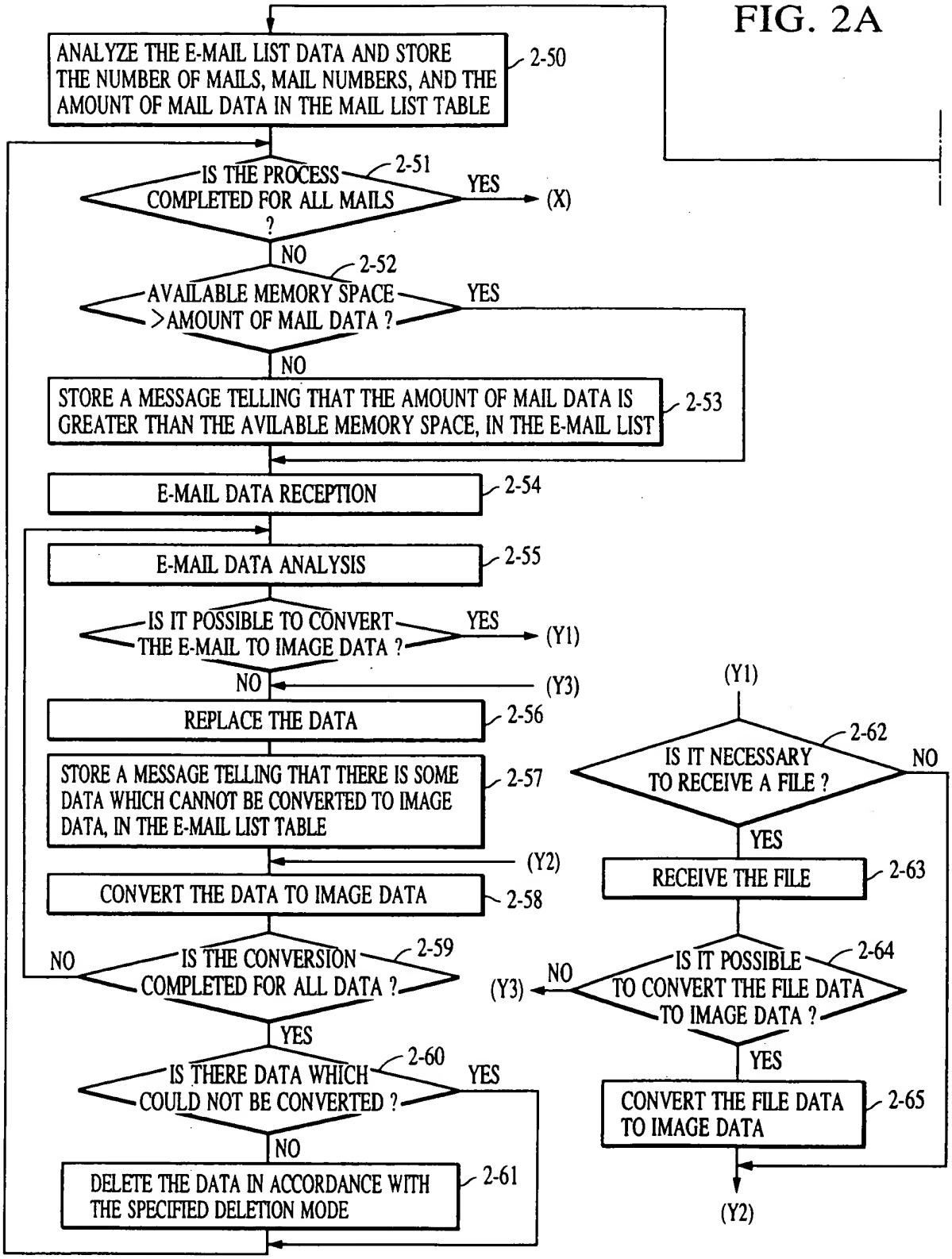

ANALYZE THE E-MAIL LIST DATA AND STORE THE NUMBER OF MAILS, MAIL NUMBERS, AND THE AMOUNT OF MAIL DATA IN THE MAIL LIST TABLE
2-50
IS THE PROCESS COMPLETED FOR ALL MAILS ?
2-51
YES
(X)
NO
AVAILABLE MEMORY SPACE >AMOUNT OF MAIL DATA ?
2-52
YES
NO
STORE A MESSAGE TELLING THAT THE AMOUNT OF MAIL DATA IS GREATER THAN THE AVILABLE MEMORY SPACE, IN THE E-MAIL LIST
2-53
E-MAIL DATA RECEPTION
2-54
E-MAIL DATA ANALYSIS
2-55
IS IT POSSIBLE TO CONVERT THE E-MAIL TO IMAGE DATA ?
YES
(Y1)
NO
(Y3)
REPLACE THE DATA
2-56
STORE A MESSAGE TELLING THAT THERE IS SOME DATA WHICH CANNOT BE CONVERTED TO IMAGE DATA, IN THE E-MAIL LIST TABLE
2-57
(Y2)
CONVERT THE DATA TO IMAGE DATA
2-58
NO
IS THE CONVERSION COMPLETED FOR ALL DATA ?
2-59
YES
IS THERE DATA WHICH COULD NOT BE CONVERTED ?
2-60
YES
NO
DELETE THE DATA IN ACCORDANCE WITH THE SPECIFIED DELETION MODE
2-61
(Y1)
IS IT NECESSARY TO RECEIVE A FILE ?
2-62
NO
YES
RECEIVE THE FILE
2-63
NO
(Y3)
IS IT POSSIBLE TO CONVERT THE FILE DATA TO IMAGE DATA ?
2-64
YES
CONVERT THE FILE DATA TO IMAGE DATA
2-65
(Y2)

FIG. 2B

FIG. 2

FIG. 2A	FIG. 2B

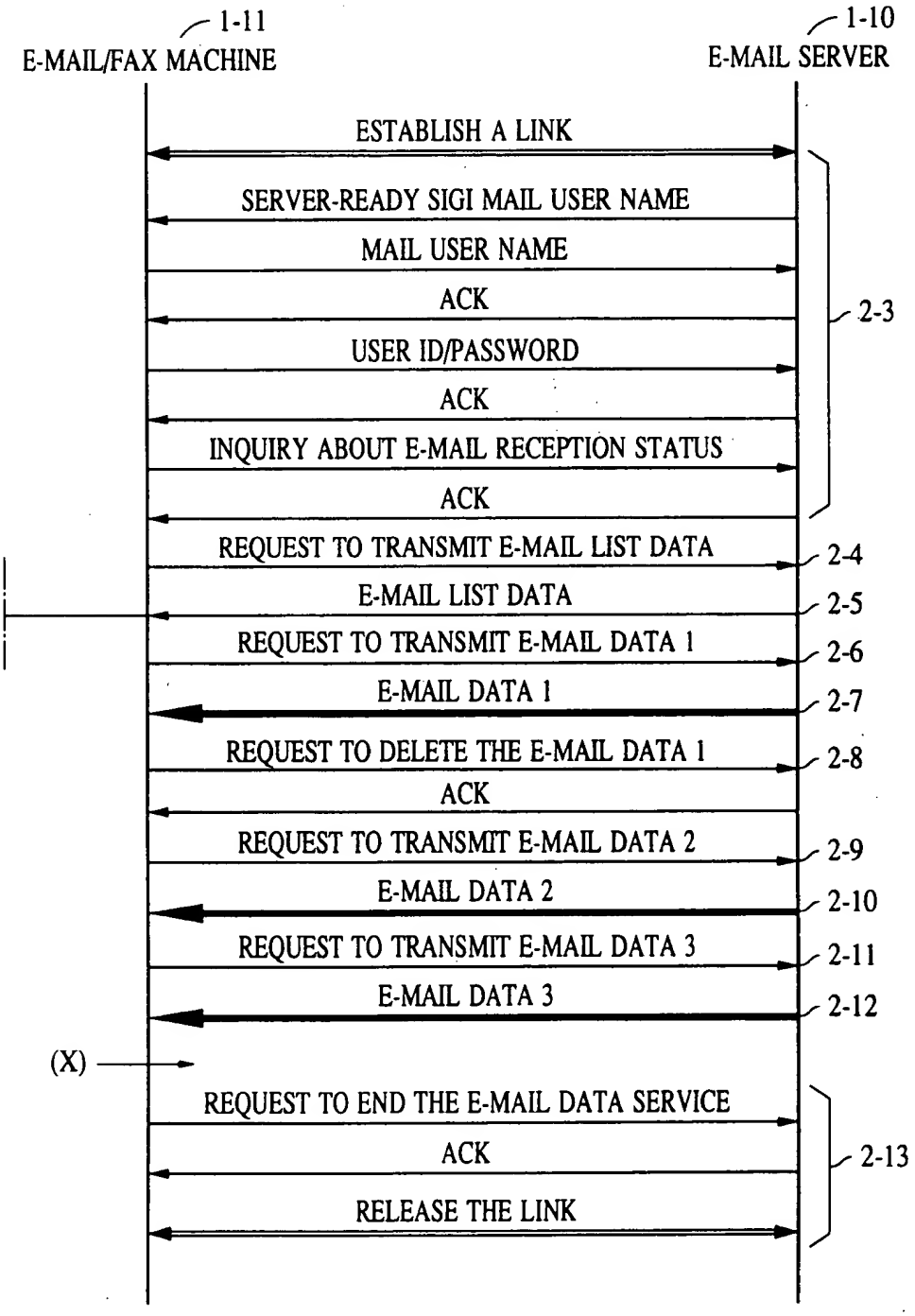


FIG. 3

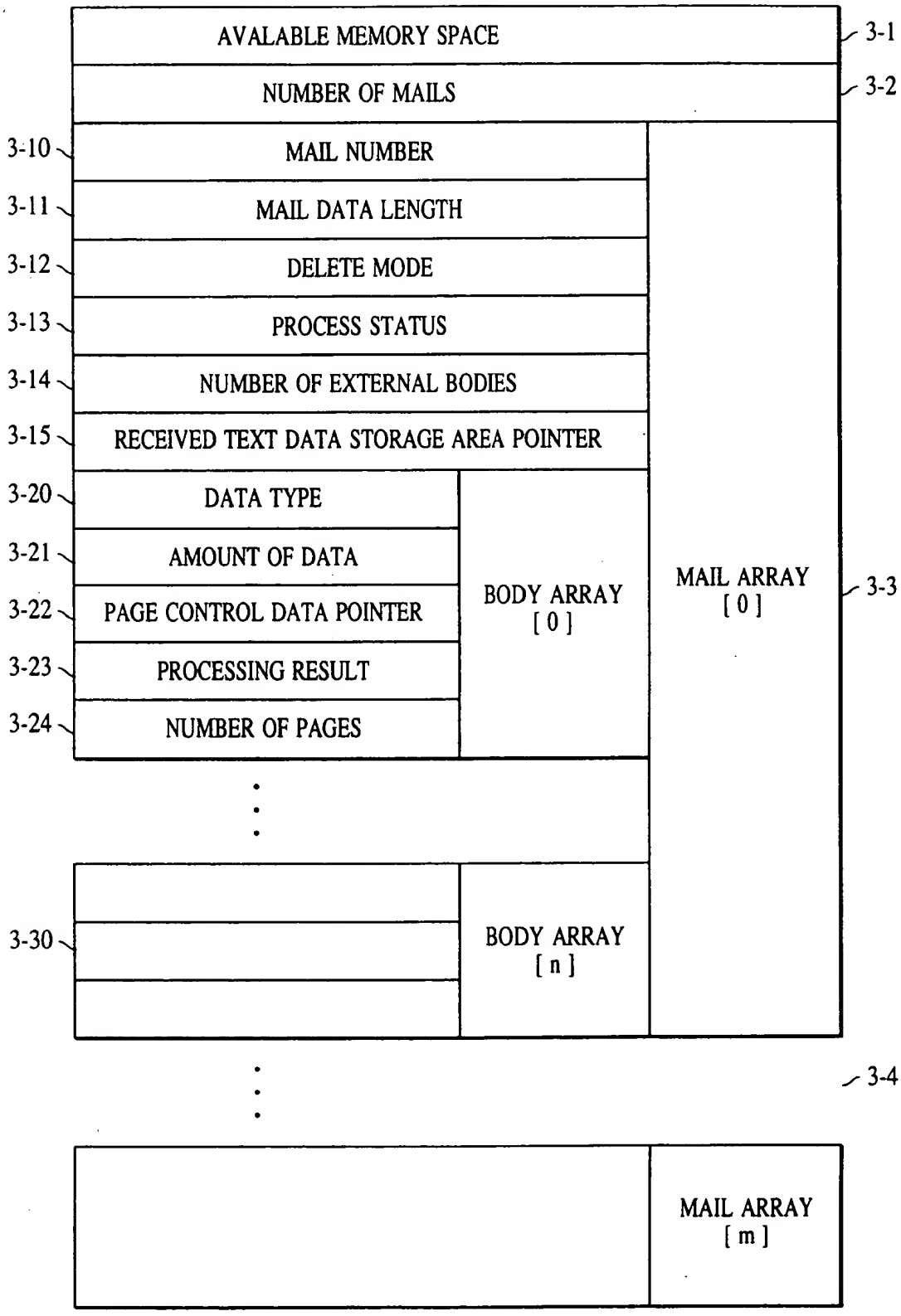

AVALABLE MEMORY SPACE
3-1
NUMBER OF MAILS
3-2
3-10
MAIL NUMBER
3-11
MAIL DATA LENGTH
3-12
DELETE MODE
3-13
PROCESS STATUS
3-14
NUMBER OF EXTERNAL BODIES
3-15
RECEIVED TEXT DATA STORAGE AREA POINTER
3-20
DATA TYPE
3-21
AMOUNT OF DATA
3-22
PAGE CONTROL DATA POINTER
3-23
PROCESSING RESULT
3-24
NUMBER OF PAGES
BODY ARRAY [0]
MAIL ARRAY [0]
3-3
3-30
BODY ARRAY [n]
3-4
MAIL ARRAY [m]

FIG. 4

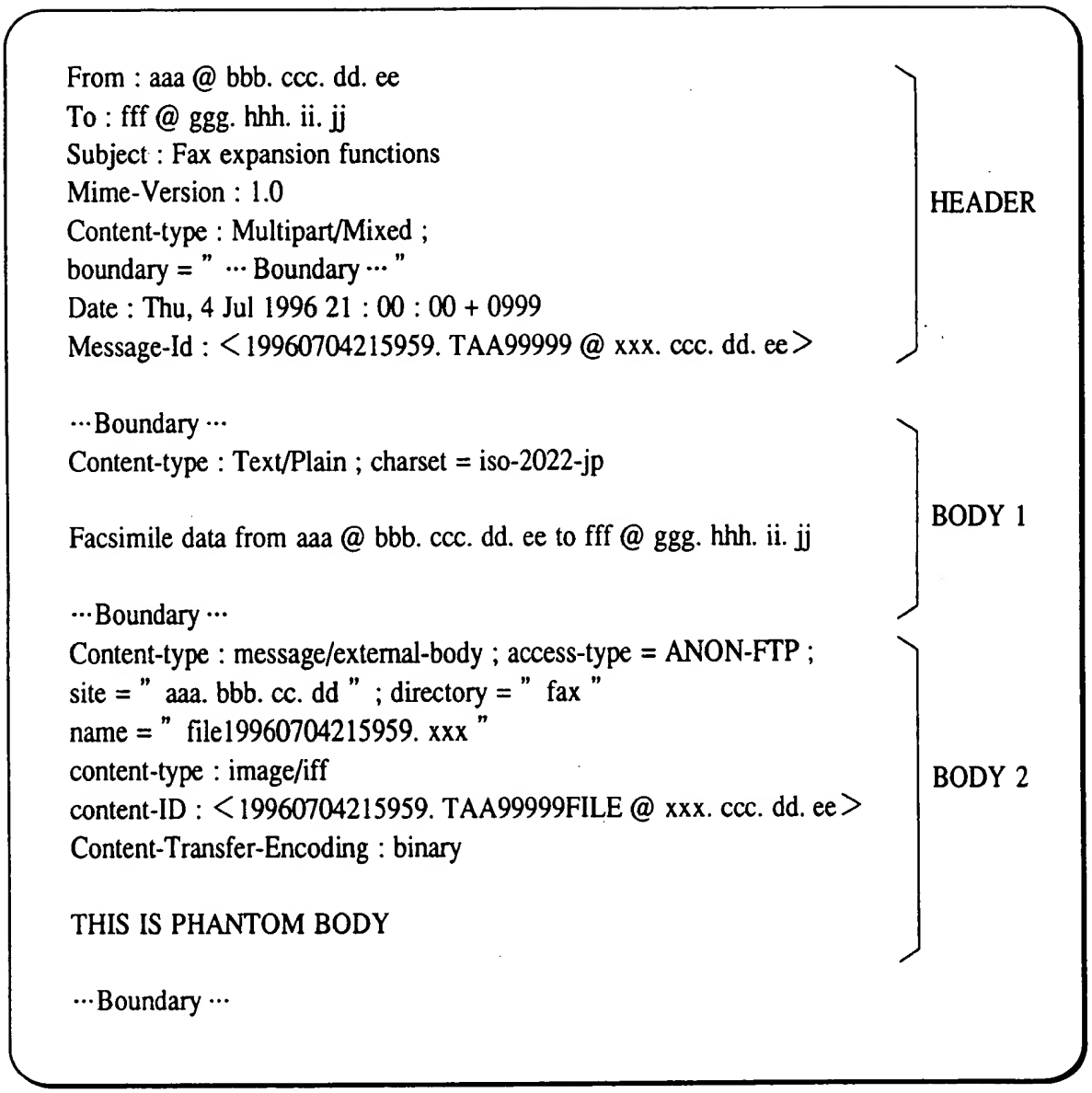

From : aaa @ bbb. ccc. dd. ee
To : fff @ ggg. hhh. ii. jj
Subject : Fax expansion functions
Mime-Version : 1.0
Content-type : Multipart/Mixed ;
boundary = " ··· Boundary ··· "
Date : Thu, 4 Jul 1996 21 : 00 : 00 + 0999
Message-Id : <19960704215959. TAA99999 @ xxx. ccc. dd. ee>
HEADER
···Boundary ···
Content-type : Text/Plain ; charset = iso-2022-jp
Facsimile data from aaa @ bbb. ccc. dd. ee to fff @ ggg. hhh. ii. jj
BODY 1
···Boundary ···
Content-type : message/external-body ; access-type = ANON-FTP ;
site = " aaa. bbb. cc. dd " ; directory = " fax "
name = " file19960704215959. xxx "
content-type : image/iff
content-ID : <19960704215959. TAA99999FILE @ xxx. ccc. dd. ee>
Content-Transfer-Encoding : binary
THIS IS PHANTOM BODY
BODY 2
···Boundary ···

FIG. 5

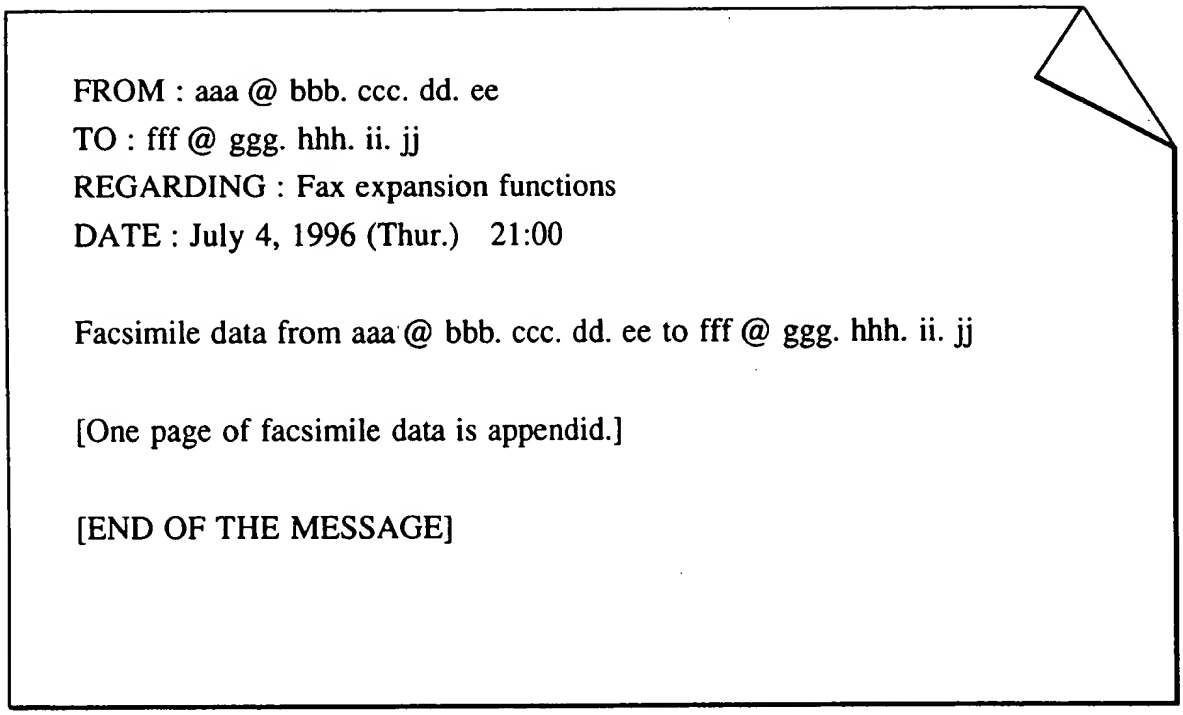

FROM : aaa @ bbb. ccc. dd. ee
TO : fff @ ggg. hhh. ii. jj
REGARDING : Fax expansion functions
DATE : July 4, 1996 (Thur.) 21:00
Facsimile data from aaa @ bbb. ccc. dd. ee to fff @ ggg. hhh. ii. jj
[One page of facsimile data is appendid.]
[END OF THE MESSAGE]

FIG. 6

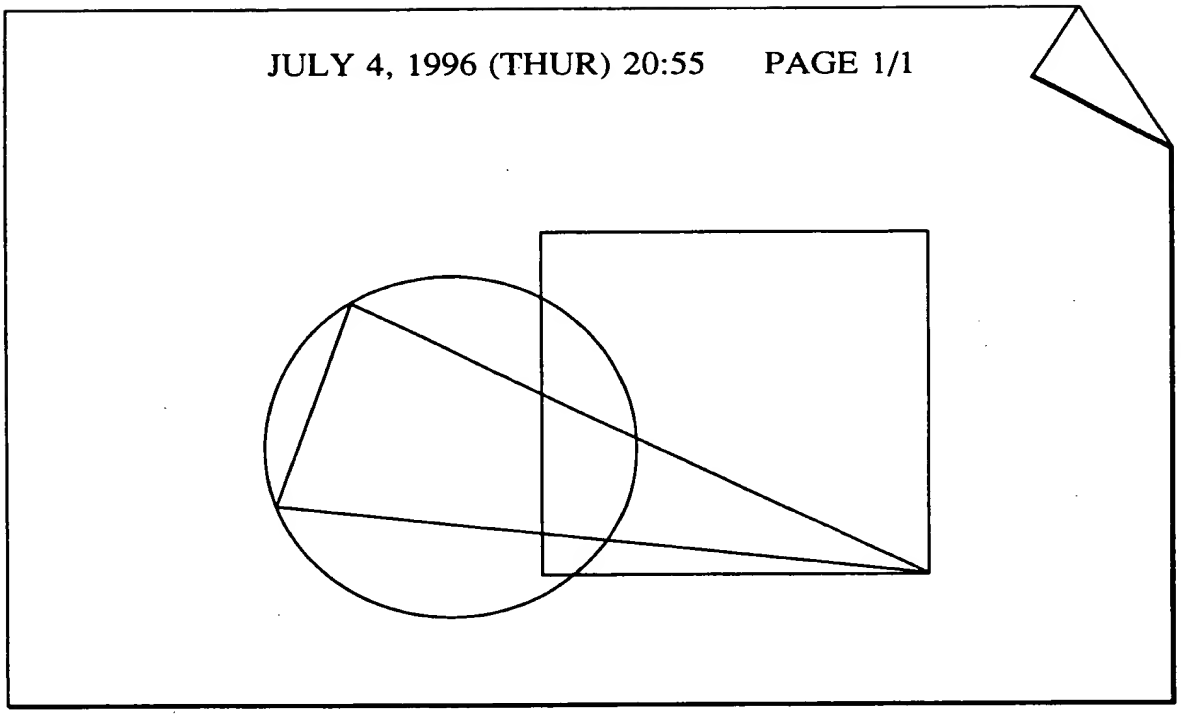


FIG. 7

* * * * RECEIVED MAIL * * * *

FROM : aaa @ bbb. ccc. dd. ee
TO : fff @ ggg. hhh. ii. jj
REGARDING : Fax expansion functions
DATE : July 4, 1996 (Thuu.) 21:00

Facsimile Data from aaa @ bbb. ccc. dd. ee to
fff @ ggg. hhh. ii. jj

FACSIMILE DATA FROM aaa @ bbb. ccc. dd. ee to fff @ ggg. hhh. ii. jj

[THE COLOR IMAGE DATA LISTED BELOW IS ALSO RECEIVED BUT THIS MACHINE IS NOT CAPABLE OF DEALING WITH IT]

[YOU CAN GET IT VIA YOUR COMPUTER]

Content-type : message/external-body ;
access-type = local-file ;
name = " /fax/aaa/tiff19960704215959. xxx "
content-type : image/jpg
content-ID <19960704215959. TAA99999TIFF @ xxx. ccc. dd. ee>
Content-Transfer-Encoding : binary

[END OF THE MESSAGE]

FIG. 8

* * * * MAIL LIST * * * *

There are 3 mails received.

Mail Access Number : 1
FROM : aaa @ bbb. ccc. dd. ee
TO : fff @ ggg. hhh. ii. jj
REGARDING : Subject1
DATE : July 4, 1996 (Thur.), 9:00
RECEPTION STATUS : No Error

Mail Access Number : 2
FROM : kkk @ lll. ccc. dd. ee
TO : fff @ ggg. hhh. ii. jj
REGARDING : Fax expansion functions
DATE : July 4, 1996 (Thur.), 10:00
RECEPTION STATUS : Invalid Data

Mail Access Number : 3
FROM : mmm @ lll. ccc. dd. ee
TO : fff @ ggg. hhh. ii. jj
REGARDING : Fax expansion functions
DATE : July 4, 1996 (Thur.), 10:00
RECEPTION STATUS : Memory Overflow Error

[END OF THE MAIL LIST]

FIG. 9

FIG. 9A
FIG. 9B

FIG. 9A

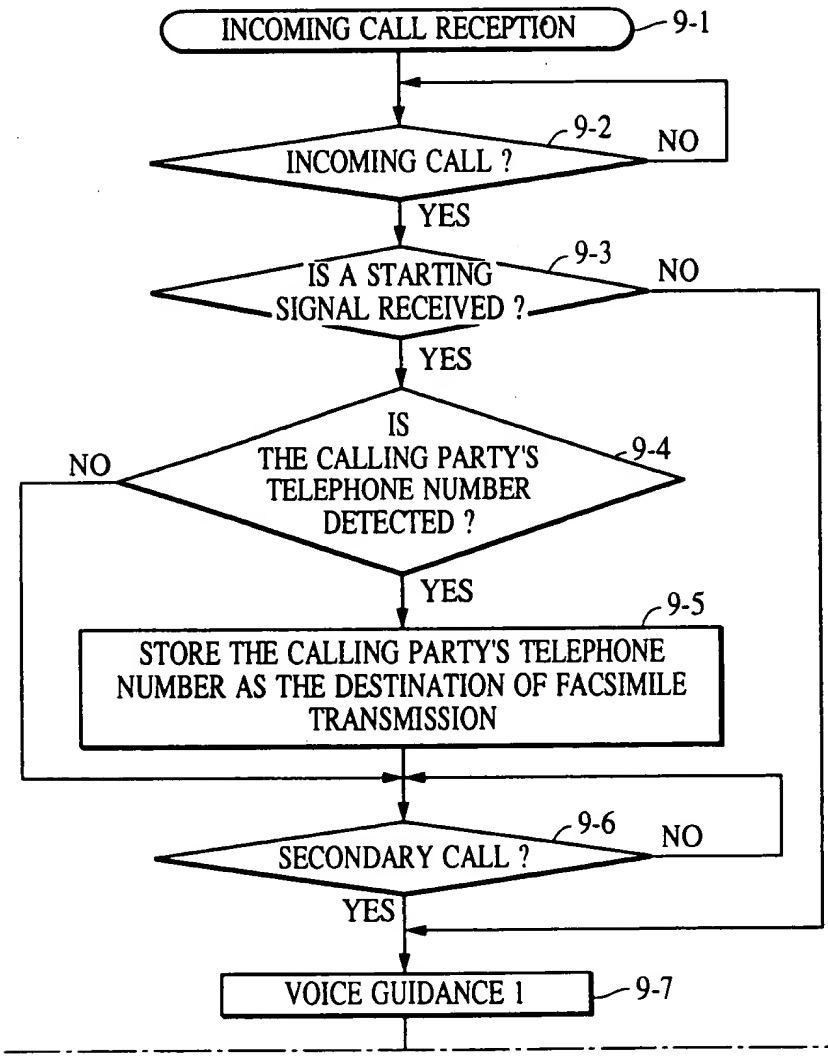


FIG. 9B

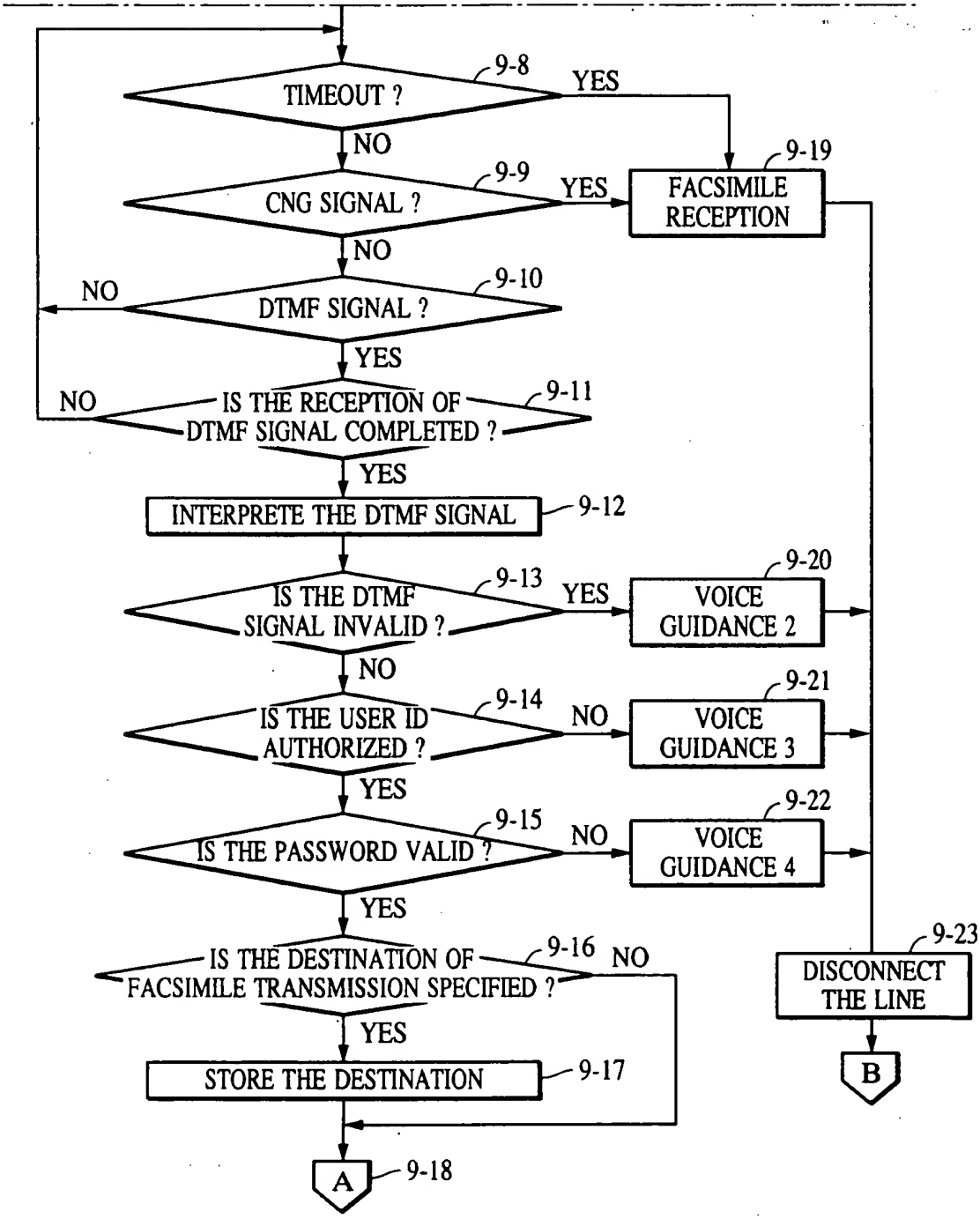

TIMEOUT ?
9-8
YES
NO
CNG SIGNAL ?
9-9
YES
FACSIMILE RECEPTION
9-19
NO
DTMF SIGNAL ?
9-10
NO
YES
IS THE RECEPTION OF DTMF SIGNAL COMPLETED ?
9-11
NO
YES
INTERPRETE THE DTMF SIGNAL
9-12
IS THE DTMF SIGNAL INVALID ?
9-13
YES
VOICE GUIDANCE 2
9-20
NO
IS THE USER ID AUTHORIZED ?
9-14
NO
VOICE GUIDANCE 3
9-21
YES
IS THE PASSWORD VALID ?
9-15
NO
VOICE GUIDANCE 4
9-22
YES
IS THE DESTINATION OF FACSIMILE TRANSMISSION SPECIFIED ?
9-16
NO
YES
STORE THE DESTINATION
9-17
A
9-18
DISCONNECT THE LINE
9-23
B

FIG. 10

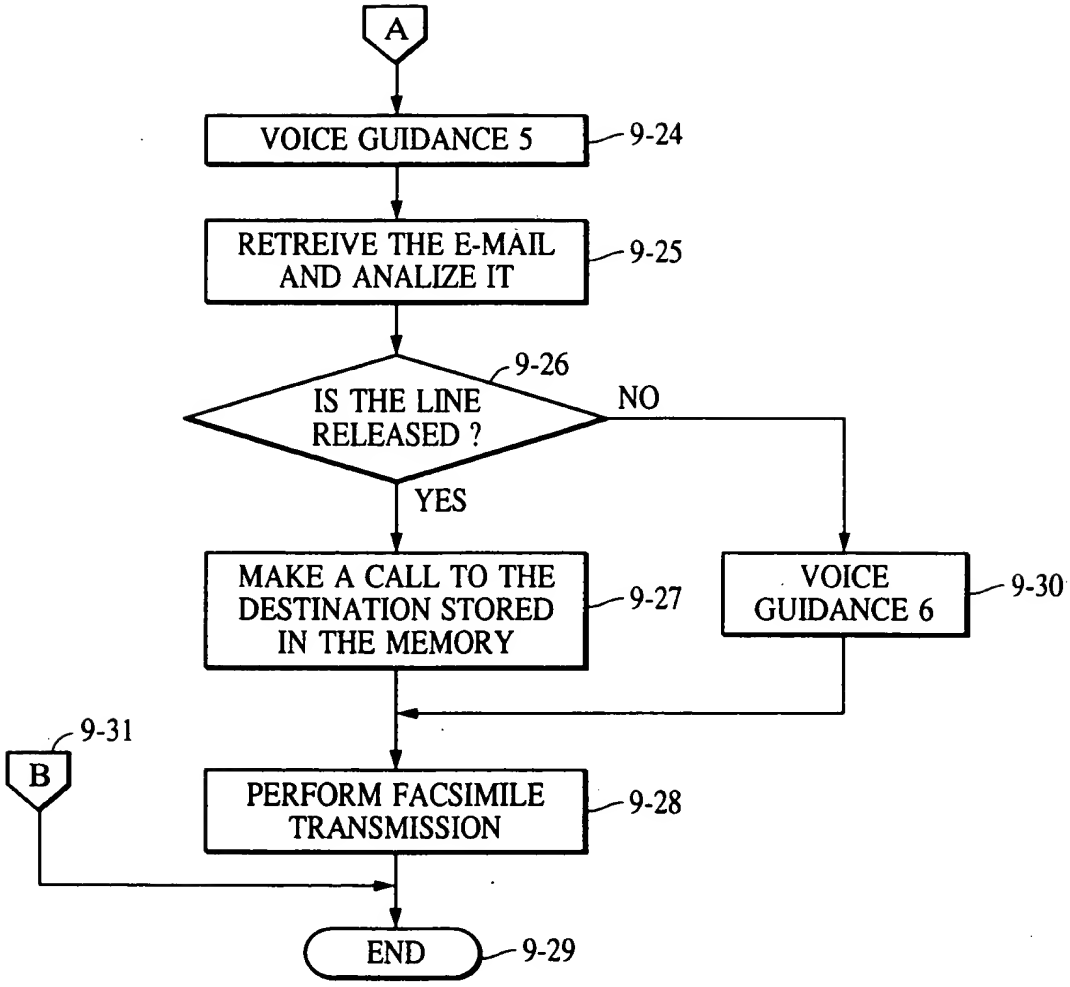

A
VOICE GUIDANCE 5
9-24
RETREIVE THE E-MAIL AND ANALIZE IT
9-25
9-26
IS THE LINE RELEASED ?
NO
YES
MAKE A CALL TO THE DESTINATION STORED IN THE MEMORY
9-27
VOICE GUIDANCE 6
9-30
9-31
B
PERFORM FACSIMILE TRANSMISSION
9-28
END
9-29

FIG. 11

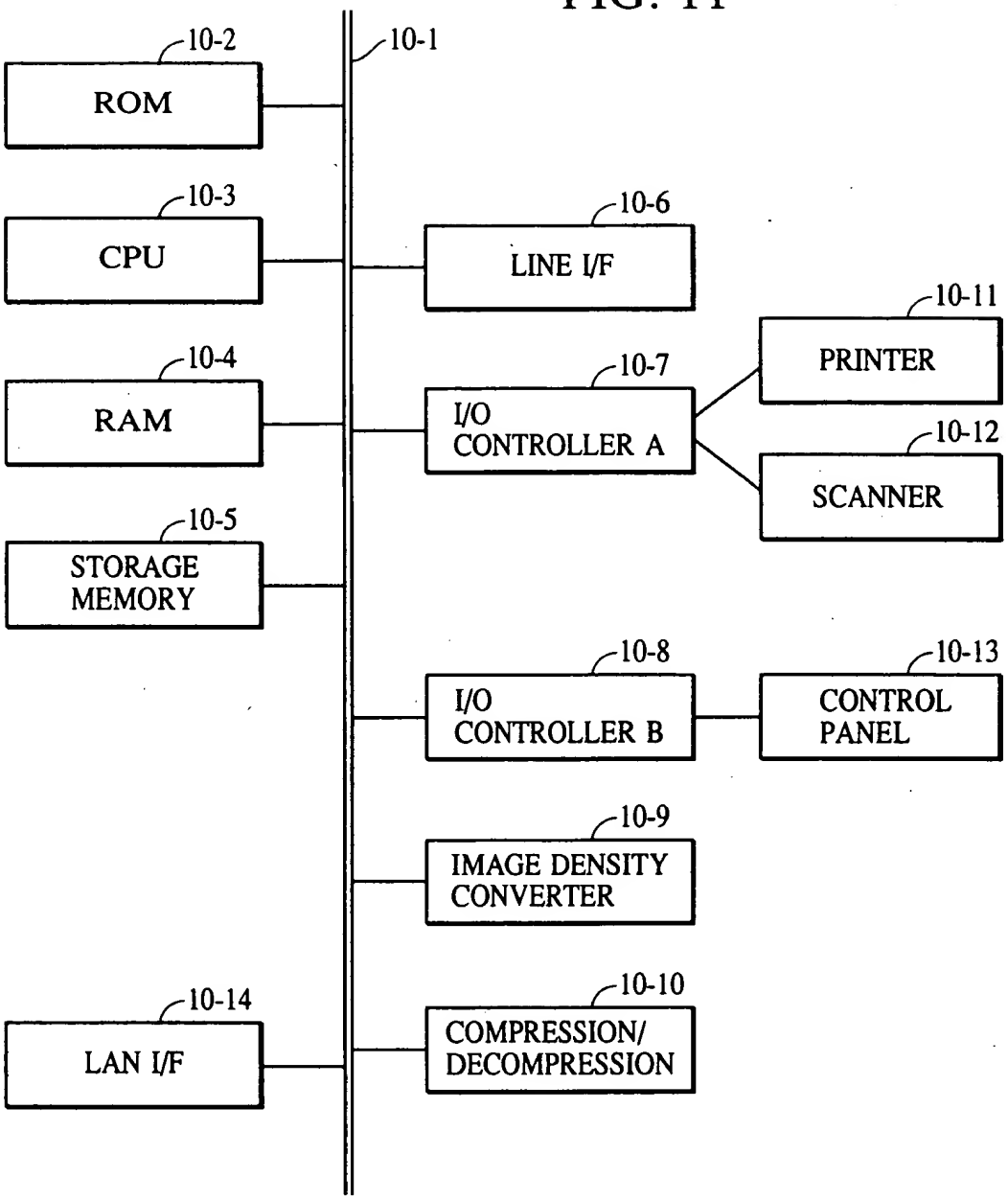

10-1
10-2
ROM
10-3
CPU
10-4
RAM
10-5
STORAGE MEMORY
10-6
LINE I/F
10-7
I/O CONTROLLER A
10-11
PRINTER
10-12
SCANNER
10-8
I/O CONTROLLER B
10-13
CONTROL PANEL
10-9
IMAGE DENSITY CONVERTER
10-10
COMPRESSION/ DECOMPRESSION
10-14
LAN I/F

FIG. 12

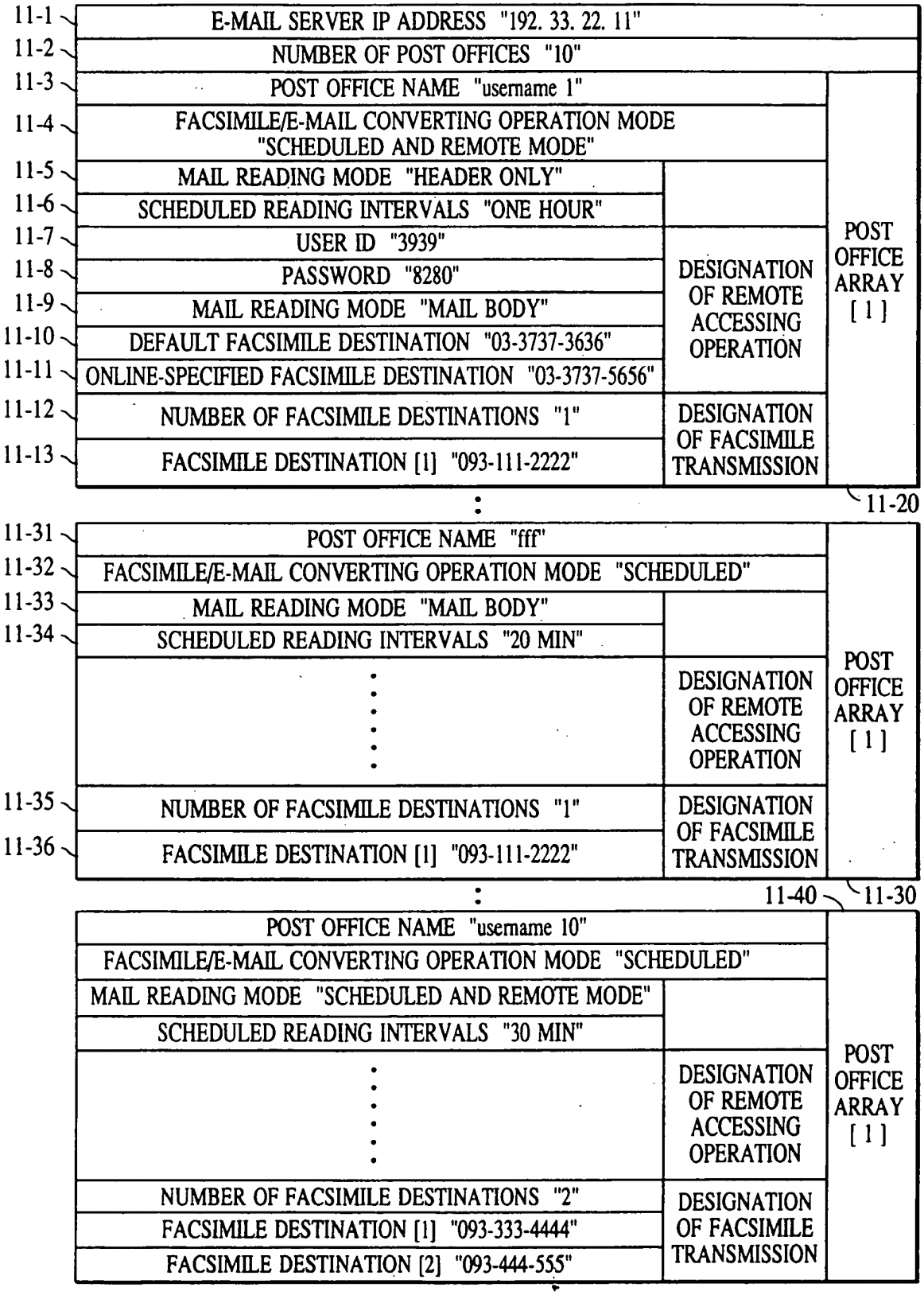
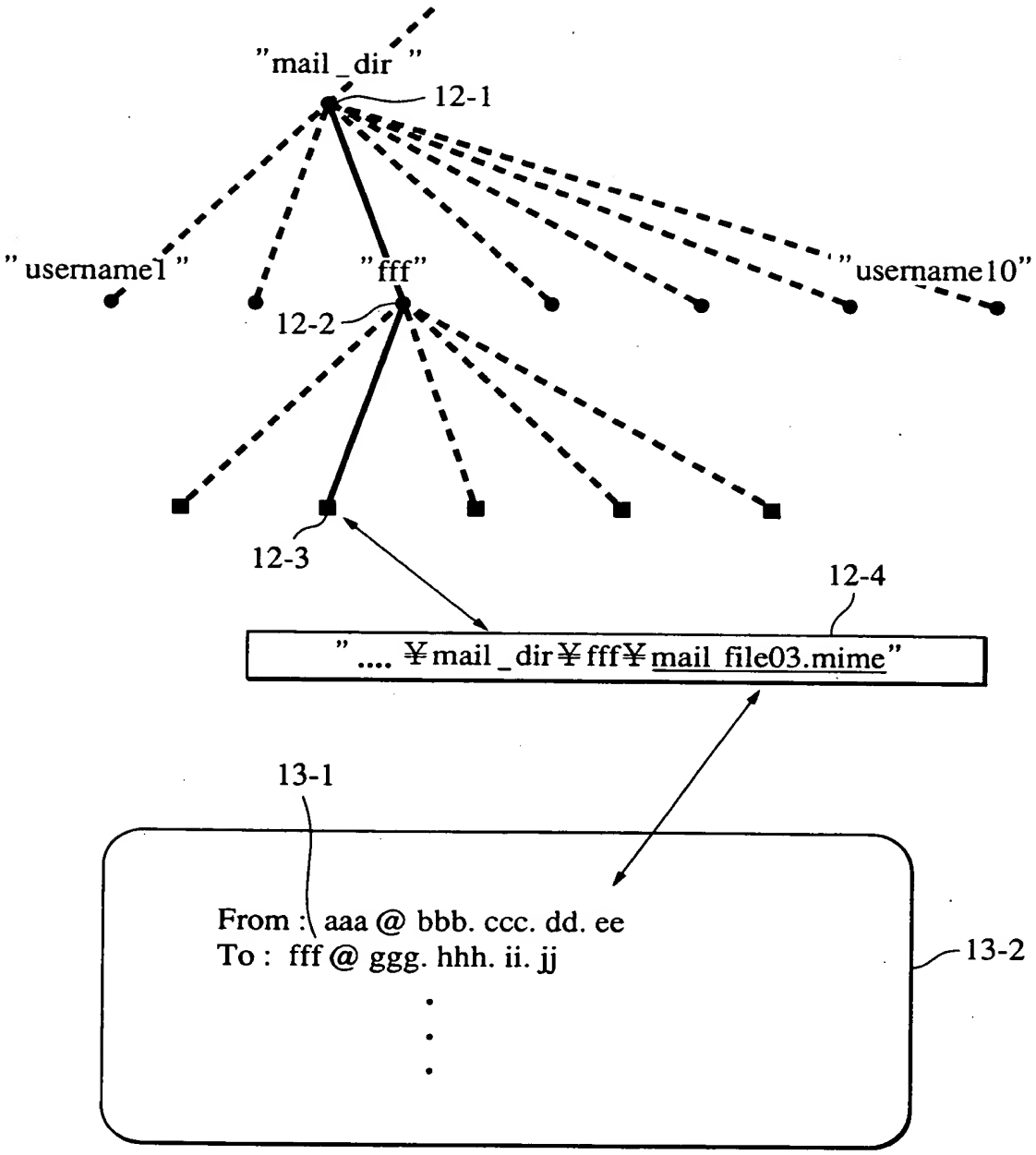

11-1
E-MAIL SERVER IP ADDRESS "192. 33. 22. 11"
11-2
NUMBER OF POST OFFICES "10"
11-3
POST OFFICE NAME "username 1"
11-4
FACSIMILE/E-MAIL CONVERTING OPERATION MODE "SCHEDULED AND REMOTE MODE"
11-5
MAIL READING MODE "HEADER ONLY"
11-6
SCHEDULED READING INTERVALS "ONE HOUR"
11-7
USER ID "3939"
11-8
PASSWORD "8280"
11-9
MAIL READING MODE "MAIL BODY"
11-10
DEFAULT FACSIMILE DESTINATION "03-3737-3636"
11-11
ONLINE-SPECIFIED FACSIMILE DESTINATION "03-3737-5656"
11-12
NUMBER OF FACSIMILE DESTINATIONS "1"
11-13
FACSIMILE DESTINATION [1] "093-111-2222"
DESIGNATION OF REMOTE ACCESSING OPERATION
DESIGNATION OF FACSIMILE TRANSMISSION
POST OFFICE ARRAY [1]
11-20
11-31
POST OFFICE NAME "fff"
11-32
FACSIMILE/E-MAIL CONVERTING OPERATION MODE "SCHEDULED"
11-33
MAIL READING MODE "MAIL BODY"
11-34
SCHEDULED READING INTERVALS "20 MIN"
11-35
NUMBER OF FACSIMILE DESTINATIONS "1"
11-36
FACSIMILE DESTINATION [1] "093-111-2222"
DESIGNATION OF REMOTE ACCESSING OPERATION
DESIGNATION OF FACSIMILE TRANSMISSION
POST OFFICE ARRAY [1]
11-40
11-30
POST OFFICE NAME "username 10"
FACSIMILE/E-MAIL CONVERTING OPERATION MODE "SCHEDULED"
MAIL READING MODE "SCHEDULED AND REMOTE MODE"
SCHEDULED READING INTERVALS "30 MIN"
NUMBER OF FACSIMILE DESTINATIONS "2"
FACSIMILE DESTINATION [1] "093-333-4444"
FACSIMILE DESTINATION [2] "093-444-555"
DESIGNATION OF REMOTE ACCESSING OPERATION
DESIGNATION OF FACSIMILE TRANSMISSION
POST OFFICE ARRAY [1]

FIG. 13


"mail_dir"
12-1
"username1"
"fff"
"username10"
12-2
12-3
12-4
".... ¥mail_dir¥fff¥mail_file03.mime"
13-1
From : aaa @ bbb. ccc. dd. ee
To : fff @ ggg. hhh. ii. jj
13-2

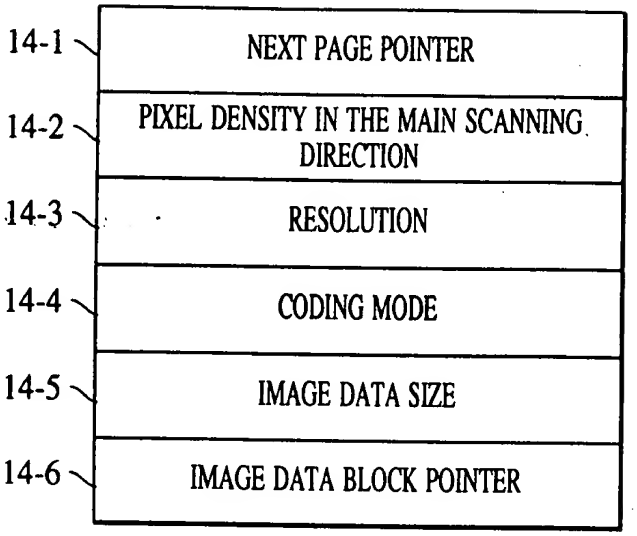
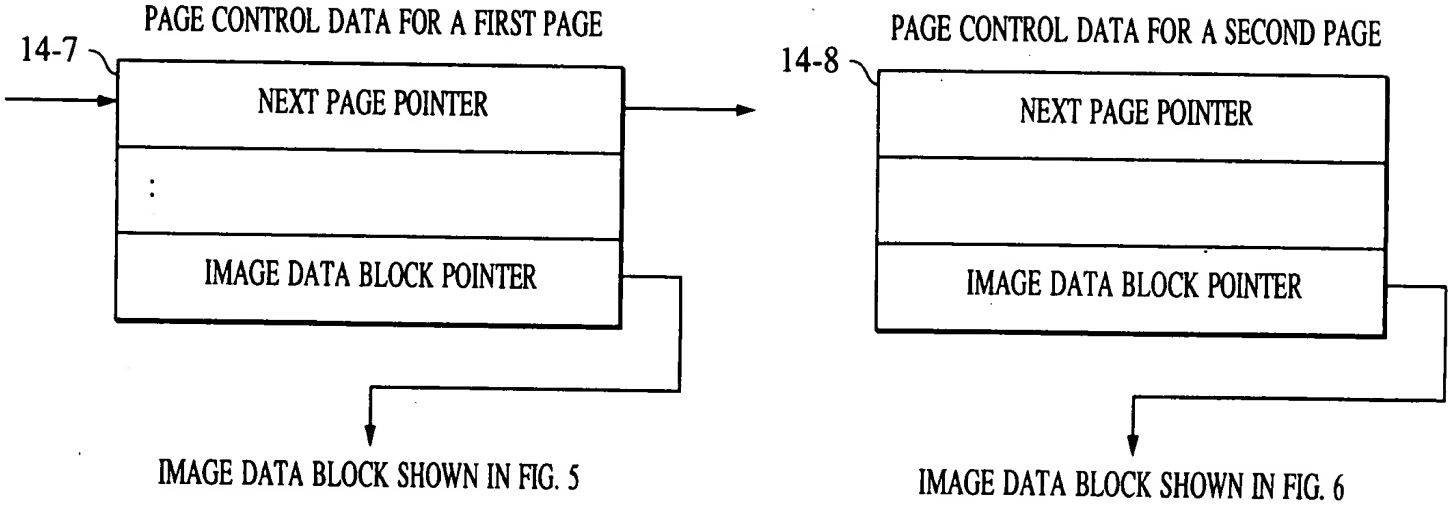

14-1
NEXT PAGE POINTER
14-2
PIXEL DENSITY IN THE MAIN SCANNING DIRECTION
14-3
RESOLUTION
14-4
CODING MODE
14-5
IMAGE DATA SIZE
14-6
IMAGE DATA BLOCK POINTER

FIG. 14


PAGE CONTROL DATA FOR A FIRST PAGE
14-7
NEXT PAGE POINTER
:
IMAGE DATA BLOCK POINTER
IMAGE DATA BLOCK SHOWN IN FIG. 5
PAGE CONTROL DATA FOR A SECOND PAGE
14-8
NEXT PAGE POINTER
IMAGE DATA BLOCK POINTER
IMAGE DATA BLOCK SHOWN IN FIG. 6